UNIVERSITY   OF   QUEENSLAND

Prentice   Computer   Centre

NEWSLETTER

authorization: Director of the Centre

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2   SYSTEM PERFORMANCE - NEW COMMENCING TIME

It will be appreciated that with two of our engineers away in the U.S.A. for ten weeks, our maintenance resources have been under some strain.   Recent system performance has not been good and there are a number of areas where we need to do some general overhaul and thorough preventative maintenance.

Until the start of next semester, the preventative maintenance period will be extended and the system will not be available until 0900 hrs.

3 NEW SYSTEM IMPLEMENTATION

Plans for the implementation of the new KL10B system are proceeding according to schedule. Two of our engineering staff are at present in the U.S.A. attending a course on the maintenance of the new system. They tell us that production is on target and the system should be on-site here in December this year. Two of our systems staff are currently at the Western Australian Institute of Technology (they have a KL10B system) proving out programs to be used in the acceptance tests of the new equipment. Development and communications software for the new system is at an advanced stage. Thus, unless there are major unexpected problems, we would expect to have the new system ready for operational use by first semester next year.

As we now have the major items of system software, we believe it would be wise to implement them on the current KA system so that we and our users may gain some experience before implementation on the KL10 system. As from Monday, 21 November, there will be a new version of the monitor (version 6.03), a new version of Login and changes to a number of language systems. It sounds frightening but we believe that most users will not be aware of the changes and itis better to correct problems now rather than have them compounded by the inevitable teething problems one may have with the new system. We have conducted some internal tests but we cannot be sure all problems have been removed. We therefore seek your co-operation in helping us by reporting any difficulties and perhaps extending us a little tolerance during the initial stages.

Some notes on major items of software which have been changed follow:

Monitor (6.03):   This monitor primarily offers greater reliability and despite its increased size, our preliminary tests indicate greater throughput than the present system. Some new facilities also exist -

- It is possible to set default file protection on a per-job basis, rather than requiring all users to accept the system default. The command .SET DEFAULT nnn will set the default protection for a particular user. (see also Login below).

- A new procedure, FILE-DAEMON for special control of file access now exists. This scheme is being evaluated by the Centre.

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- A new command file capability now exists and is being evaluated during the trial period. With this scheme, it is possible to invoke a file of commands by a single user command and have the commands in it acted on as if they had been typed by the user. Parameter substitution and a conditional capability is provided. See DOC:MIC.DOC for further information.

- Because of additional commands, it may be necessary to type more characters for some commands in order to get a unique abbreviation. In particular, GET will have a minimum abbreviation of GE - rather than G as at present.

- In view of the increasing standardization of terminals away from the use of 175 as a variant of ESCAPE, the default setting for terminals will be NO ALTMODE. This means that 175 is not considered as ESC, so if your terminal key ALTMODE or ESCAPE does not echo as $, give the command .TTY ALTMODE.

- As indicated in the last newsletter, the default format for core-image files will be the EXE format.

This monitor has been in use for periods since the weekend 22/23 October. It has been found that little effort was required for conversion to it and we do not anticipate significant problems in its adoption.

LOGIN (v. 60): This version implements a number of maintenance patches and provides some new features which will facilitate its use with the 6.03 monitor. In particular, switches now exist to set UFD, SFD and default file protections.

/UFDPROT:nnn	sets UFD protection
/SFDPROT:nnn	sets SFD protection
/DEFPROT:nnn	sets default file protection (equivalent to .SET DEFAULT nnn)

Another switch also exists to facilitate password changing. If the switch /PASSWORD is given in the LOGIN line, on verification of the old password, LOGIN will request a new password which will be entered into the accounting files. This procedure will remove the need for the separate PASSWO program.

COBOL: Version 10 is to become standard and version 6A-7 is to go to OLD. This will allow V.11 to be installed on NEW for general evaluation (it has been on PUB: since the beginning of the month. All existing SAVed programs will continue to run. However, any .REL files will have to be loaded with the appropriate version of LIBOL.

Other than for the inclusion of some additional reserved words, there should be no problems with source programs and it is recommended that you re-compile programs with the new compiler if you are developing programs. One difference has been noted in version 10 and is concerned with the addition of computational quantities with different assumed decimal positions - for further details, contact Chris de Voil. See DOC:COBOL.DOC for further general information on COBOL 10/11.

FORTRAN - FOROTS: Version 5A is to become standard and version 4B will go to OLD. This new version of FOROTS has additional error processing facilities and differences do exist in this area between it and earlier versions, particularly in the use of REREAD for error reporting. For further information, see DOC:FTN5 and FRS5.DOC. Existing SAVed programs should continue to run, though those which use REREAD after errors should be examined carefully. .REL files may be loaded under the new system without problems.

DEFAULT FORTRAN COMPILER: A further change being made at this time is to change to the use of F10 as the default compiler. F10 is the best and only DEC supported compiler for this system, having superseded F40 now by some 3 years.

MACRO-52: This version, which has been on NEW since late October will become standard. There are differences in the way Universal files are processed ad Macros are handled. Additionally, new facilities are available. For further details, see DOC:MCR52.DOC.

4   COMPUTER CHARGES 1978

Despite the inflationary increases in labour costs and many items of consumables, it has been decided that charges will not be increased in 1978. Indeed, the Finance Committee has approved that in order to assist internal users to make increased use of the new equipment, some internal charge rates will be reduced as from 1.3.78.

The current charge for job slot usage will be abolished and the charge for the utilization of core memory will be reduced by 25%.

To preserve the same effective current charges for other than 'internal' users, the charge factor for 'other educational' users will be increased from 1.2 times to 1.5 times the 'internal' rate and for 'external' users from 2.1 to 2.7 times the internal rate as from 1.3.78.

5   MONECS RUNS

As from Monday, 14 November, until next semester, there will
only be one Monecs run per day.   This will be the normal
overnight Monecs run at the Hawken Batch Station.   No more
Monecs decks will be processed at the Commerce Batch Station
until next semester.

6   RUNOFF

For a substantial time now, we have been carrying two versions
of RUNOFF; that which derived from an early DEC version with
some enhancements for our own documentation and DEC's develop-
ment to version 10 (which had to be called RUNF10 to avoid
name conflicts).   In May, RUNF10 was updated to include the
additional facilities added here (see N-214) but because of
different operation, both were left on STD:.   The time has
come to effect some ratinalization.   As from Monday, 21 November,
the old Runoff will go to OLD: and the newer version will be
renamed RUNOFF and become our standard version.   The operational
procedures are different and those for the supported version
are outlined in the appropriate chapter of the DECsystem10
Utilities Manual.   Further, the RUNOFF help file gives
operational details and RUNINP outlines the control facilities
available in the data files processed by Runoff.

7   CORRECTIONS & ADDITIONS TO THE MACRO-10 I/O LIBRARY, IOLIB

A new version of the input/output subroutine library, IOLIB, has
been released, correcting a number of longstanding errors and
adding a new facility.   The routine to read project,programmer
number, $RPJPG, now handles the following special cases;
[-] the default path, [,] the job's ppn, [,pg] the job's project
and [pj,] the job's programmer number.

In $LUKUP and $ENTER an empty path block implies the full default
path.   The actual path used is returned in the path block after
a successful UUO.

A checkpointing facility similar to that used by LINED for its
log file has been added to $OUTPU.   If FM$CKP is set in $FDMOD
and $FDMON, the file is checkpointed using the FILOP. UUO before
the OUTPUT UUO (after the OUTPUT for non-buffered mode).   This
allows for a /CHECKPOINT switch on an output file.   Such a switch
would be defined by including within the definition of SWIT$$ the
line,
```
        SS$ <CHECKPOINT>,<POINTR ($FDMOD(P3),FM$CKP)>,1
```

The file would then be checkpointed every block, or more often by using OUTPU$ or less often by clearing the bit in $FDMOD and using explicit CKPNT$ calls.

8 A PROGRESS REPORT ON VERSION 5 OF THE EDITOR

On 27 September, version 5(30) was installed on STD:. Several users reported difficulties, most being due to new restrictions on the characters permissible as string delimiters. The non-permitted characters are the digits and ".", "#", "*", "+", "-" and ";". Version 5(33) was released a few days later. The warning, "%EDINSC No string in command" is now given for such commands as "CHANGE * ;...;...;". Semicolon is a command delimiter (unless it is within a string) allowing multiple commands on a line. The editor was also changed to correctly print lines ending <lf><cr> instead of the usual <cr><lf>.

On 13 October, the editor was loaded with the new edition of IOLIB described above to correct some deficiencies in file name decoding and to handle a default directory path such as "[223,410,GAME]/SCAN" correctly. "[-]", "[,]", "[pj,]" and "[,pg]" are allowable constructs within a file specification.

Those users of the editor who have not yet obtained a copy of the new manual are urged to do so. The cost, a nominal $1, will soon be regained by using the new features to save time and money. The log file facility, for example, is better than frequent SAVEs as insurance against system crashes and editing mishaps. For editing jobs that can be automated, the REPEAT, MACRO and PERFORM commands are very useful in saving time and effort and achieving accuracy.

Section 8.7 of the manual describes the use of the /MAXCOR switch to vary the limit of the editor's data segment. "EDIT file/MAXCOR:*" would get the whole file, up to 160 blocks, into core. Editing in this way is most efficient for changes and searches over the whole file, since disk reads and writes and processor time are minimized. If the editing job can be organized as a single pass through the file, the opposite approach is better. "EDIT file/MAXCOR:1" uses the minimum amount of core, keeping about 10 blocks of the file readily available. The default setting keeps about 16 blocks in core. This was chosen to be the optimum for most purposes.

The Centre regards the editor as an important piece of software and any difficulties users may have will be dealt with promptly.

9   CREDITS FOR COMPUTER CENTRE SYSTEM ERRORS

We take the opportunity to remind users that we live in an
imperfect world and that in spite of the best intentions to
the contrary system failures and errors will occur from time
to time.

Under some circumstances, the Centre will allow credits for,
or rerun jobs that have failed as a result of system error or
crashes.   The formal statement of our obligations in this
respect is included in the Conditions of Use and Liability
Statement printed on the back of Computer Centre order forms.

In addition, the Centre management insists that users make
reasonable efforts when setting up jobs to incorporate restart
points to minimize the cost of re-running jobs should they fail.
As a guide, we would suggest that job segments in excess of about
half an hour elapsed time should be restartable whenever practical.
For example, batch control files can incorporate the .CHKPNT label
command to facilitate restart at the labels so indicated (see
Operating System Command Manual).

As a consequence, the Centre will, in general, limit credits to
the value of about a half hours computing or about $40 except
in exceptional circumstances.

When application is made for credit then the Centre management
also insists on hard copy evidence, e.g. your TTY output;   we
cannot respond to verbal only evidence.

As an aid to increasing the usefulness of such evidence, may we
suggest the use of ↑T at logical breaks in the terminal session
which will provide information about the incremental cost
throughout the session; and the SET WATCH :DAY command which
will type the time of day whenever a MONITOR command switches
the terminal from MONITOR to USER mode.   These facilities will
help the Centre determine which parts of a session have been
productive and which have not.

In summary, we wish to be fair in assessing credit requests but
we expect users to try to help themselves also.

10   DOUBLE PRECISION INSTRUCTIONS

The KL10 has a series of instructions designed to facilitate
double precision arithmetic and manipulation of double precision
operands.   For most users, detailed use of these will be
concealed within the Fortran Operating System FOROTS, but details
are available from the Centre for those who have a need to engage

in detailed bit manipulation.   Contact the program librarian
for further details.

As a corollary to the provision of these new instructions, users
should note that while corresponding KA10 instructions will
initially be implemented on the KL10, DEC have served notice
that they intend to remove them from all code (i.e. FOROTS) and
in due course remove them from the KL10 microcode. They will
then only be implemented on the KA10 and should only be used
in programs which are specific to it. For further details of
this change, contact Chris de Voil.

11 MOTOROLA CROSS ASSEMBLER MXI;M68XAS

The following problem has been reported by a user of this system
and is passed on for the information of others:

BUG - Programs which assemble correctly with origins greater
        than $0100 give rise to phasing errors under certain
        circumstances with an origin of $0000. This is due to
        deficiencies in the assembler's handling of usually
        extended instructions in the first 256 bytes i.e. 3 byte
        instructions becoming 2 byte instructions.

This error will be corrected when next this system is maintained,
but it should be pointed out that as this is class 4 software
(i.e. offered as is) and as we are currently involved in consider-
able work in preparation for the new system, it is unlikely that
the errors will be corrected in the near future.

Our thanks to Dr. Hainsworth for reporting the error.

12 EXPIRY OF PPNs

This is the second warning that your PPNs will be expiring no
later than the end of the year and that you will not be able
to use it next year until the expiry date is extended. You will
save yourself anguish and help us if you use the attached form
to extend the expiry date before it expires.   In this form,
the project ad programmer numbers should be right justified and
the date written as DD-MMM-YY e.g. 24-DEC-78.   Further copies
of this form are available from the accounting supervisor.

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<u>PRENTICE COMPUTER CENTRE</u>

<u>EXTENSION OF PPN EXPIRY DATE</u>

Memorandum to: Director
                 <u>Prentice Computer Centre</u>

Subject: <u>PPN EXPIRY DATE</u>

Please set expiry date for the ppn's indicated.

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Date: .... Signed:.......................

*   An expiry date beyond the end of the year will not be accepted.

**   Project and programmer number is right adjusted.